Instructions for Setting Up and Operating the

SILVERTONE PHONOGRAPH

FOREWORD

The SILVERTONE PHONOGRAPH is a modern musical instrument of the finest type. Yet it is exceedingly simple in construction. No experience is necessary to set it up or operate it. With only ordinary care and the following of a few plain instructions as to its use it will give many years of service without repair or the replacement of any part.

Keep This Booklet for Future Reference

SEARS, ROEBUCK AND CO.
CHICAGO - PHILADELPHIA - DALLAS - SEATTLE
F3633.Rev.9.25.22

PART I

Setting Up and Operating

Remove the wrapping and brush off any dust or particles of excelsior which may have worked through. Remove the tape securing the tone arm. The sound box, or reproducer, is fastened in proper playing position on the tone arm. The sound box is the most delicate part of the instrument and care should be taken not to press upon the diaphragm (see Figure 2)—nor allow anything to strike against it.

Turntable and Winding Crank

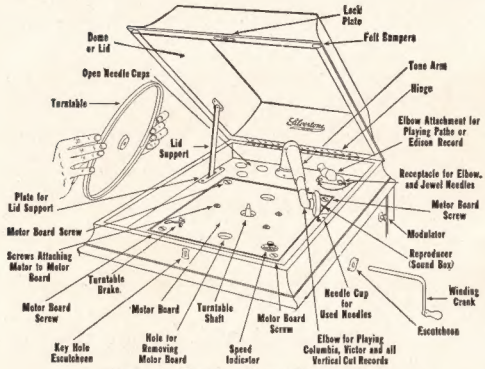

Figure 1. Putting Turntable in Place.

The turntable is packed inside the cabinet. Unwrap and place it in position on the machine (see Fig. 1), allowing it to slide down the spindle or shaft as far as it will go. See that the brake is turned back so it will not interfere with the turntable as it slides into place. Once in place, turn the brake against the turntable to keep it from revolving while the motor is being wound.

The winding crank, which is packed with the turntable, should then be inserted in the hole in the side of the cabinet (the escutcheon), on the right as you stand facing the phonograph. Place a little vaseline on the

crank where it passes through the escutcheon or hole into the cabinet. Push the crank straight in until the end strikes the end of the winding shaft inside the cabinet. Turn the handle slowly to the right until the crank fits into its proper place on the end of the shaft. The motor is now ready to wind.

Winding

Turn the crank to the right. Do not wind too fast. As you feel the spring tighten, wind more slowly. After you have wound the motor a few times you can tell from the resistance the spring offers when it has become tight enough. *Be careful not to wind too tightly.*

The best results are secured by winding your motor after playing each record. By doing this you will keep the motor spring fairly tight and will always have an even speed.

Never have the motor wound up tightly when the phonograph is not in use, and in letting the motor run down, always play a record. The spring is likely to become unfastened if the motor is allowed to run when not playing a record.

Placing the Needle

Insert a needle, with the sharp point out, in the needle holder at the lower part of the sound box. Tighten the set screw to hold the needle firmly. The SILVER-TONE is now ready to play.

We recommend the use of the full or loud tone steel needle when playing a record for the first time.

This will give you an idea of the volume that can be obtained from each record. If you want a softer or more mellow tone use a soft tone steel needle, fibre or Tusko needle.

Playing a Record

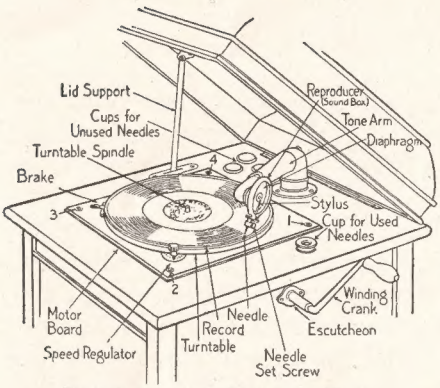

Figure 2. Instrument Ready for Playing.

Place a record on the turntable, with the turntable spindle extending up through the hole in the center of the record. Release the brake. If the turntable does not begin revolving at once give it a slight start with the hand. Hold sound box up from the record until the motor has gained full speed. Then lower it easily until the needle rests on the record. Let the point of the needle rest in the groove at the outer edge of the record *at the right.*

When the record has been played, lift the sound box, swing the tone arm to the right, clear of the record and the turntable, and apply the brake.

Needles

The quality of the tone and its loudness, or volume, depend largely upon the kind of needle used and the length of the needle. Short, thick needles give a greater volume of sound than do long, fine ones. The longer the needle—that is, the farther the point extends beyond the end of the stylus—the softer the tone will be. The shorter the needle, the louder the tone.

An assortment of needles goes with this phonograph. Try all kinds. It will help you decide which you will want to order later.

A steel needle should be used only once. By the time a record has been played the needle point is slightly

worn and a cutting edge has been formed which will injure another record if the needle is used again. Besides, a used needle cannot give the full musical tone a new one gives.

There are two special needles shown in our big General Catalog, the genuine B. & H. Fibre Needles and the Tusko Needles. The Fibre Needles are made from a certain very fine quality of bamboo, and the Tusko Needles are made from the spines, or thorns, of a certain peculiar variety of cactus. Both the Fibre Needles and the Tusko Needles give a very smooth, pleasing reproduction, remarkably free from scratch. They greatly prolong the life of the record, as they do not wear the material as much as the steel needles do. The Fibre Needles can be used only with reproducers having a triangular needle hole. The Tusko Needle can be used with any reproducer.

We strongly advise against the use of jewel point needles with Columbia, Victor or Silvertone records. The reproduction is not good and they damage and rapidly wear out the records.

Records

The SILVERTONE Phonograph is equipped with our convertible tone arm, which permits the playing of disc records of any make and any size, including the Columbia, Victor, Silvertone, Edison, Pathe, Brunswick, or any other disc records without exception. Read Part II on adjusting the convertible tone arm.

Keep your records clean. The best way is to keep them in record albums. This method of filing also makes it easy to classify your records, so you may readily find the one you want to play at any time. Albums are listed in our big General Catalog. Never use soap and water to clean records. Wipe them with a dry cloth.

Speed Regulator

The turntable should make 80 revolutions per minute. That is the speed at which the records are made and at which they should be played to get the best reproduction. Increasing the speed raises the pitch of the music. Decreasing the speed lowers the pitch.

You can time the speed of your motor by slipping a small piece of paper between the record and the turntable so it projects out over the edge. Then count the number of times per minute the paper passes around, by holding your hand so the paper will brush it each time it revolves. If you find the motor is running faster than 80 revolutions a minute turn the speed regulator a little toward "slow." If it is running too slowly, turn the speed regulator toward "fast."

Usually you can tell by the sound of the reproduction whether the motor is running at the proper speed. But it is a good idea to make a positive test once in a while by actually counting the revolutions as suggested above.

Finally

To get the best results with the SILVERTONE Phonograph the instrument should be set firmly on a solid, level surface. It should not be allowed to shake or vibrate when playing.

Never let the phonograph stand idle with the motor tightly wound.

Always play a record in letting the motor run down. If the motor unwinds without playing a record, the mainspring is likely to become unfastened and the motor will not wind.

Follow these few simple instructions carefully and your SILVERTONE Phonograph will be a thoroughly satisfactory instrument.

PART II

How to Adjust the Convertible Tone Arm

The SILVERTONE Phonograph will play any make and any size disc record. It is sent you with the reproducer on the tone arm in the position shown in

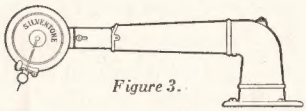

Figure 3.

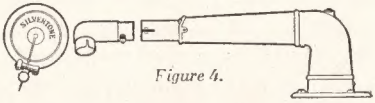

Figure 4.

Figure 3. In this position it will play Columbia, Victor and Silvertone records and any other records of the type known as "lateral cut."

To play the other type of records, known as "vertical cut," such as Edison and Pathe, the position of the

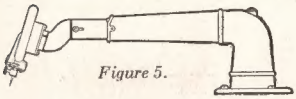
Figure 5.

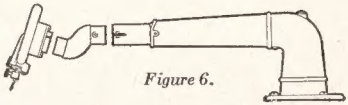
Figure 6.

reproducer must be changed to that shown in Figure 5.

To make this change, hold the reproducer firmly with the right hand and the tone arm with the left. Then give a steady pull to the right, when the reproducer will slip off the tone arm. Do not twist it back and forth, or you may shear off a small pin on the back of the reproducer which fits into the slot in the elbow (the elbow is the center piece shown in Figure 4). And be very careful not to press against the diaphragm of the reproducer.

Detach the elbow from the tone arm by unscrewing the small thumbscrew near the joint, when the elbow will slip easily off the arm. In its place set in the curved elbow shown in the center in Figure 6, screwing the thumbscrew tight to hold it firmly. Then set the reproducer on the end of the curved elbow, at right angles to it, as shown in Figure 5. See that the pin mentioned above fits into the slot in the elbow and push the reproducer on as far as it will go. In this position the instrument is ready to play all vertical cut records, such as Edison and Pathe.

Remember, this is not the position for playing Columbia, Victor or Silvertone records, nor any other of the lateral cut type. These will play only when the reproducer is in the position shown in Figure 3.

The curved elbow is packed separately. The straight one is in place on the tone arm when the phonograph reaches you. Always use a jewel point needle for playing Edison records and a jewel ball needle for playing Pathe records. For all other records use either Silvertone Steel Needles, Fibre Needles, Tusko Needles or Vallorbs Semi-Permanent Needles. These are all described in our big General Catalog.

Jewel needles are not included in the equipment of the SILVERTONE. They must be bought separately if it is desired to play Edison or Pathe records. A plate is provided on every SILVERTONE with receptacles for the elbow which is not in use and for the two jewel needles.

PART III

The Motor of the SILVERTONE

The motor of the SILVERTONE is very important. Without the motor it is impossible to operate the phonograph, so special attention must be given to it at all times. The SILVERTONE Phonograph is equipped with one of the best motors made, which, with ordinary care will run satisfactorily for many years.

Should the motor get out of order, which can happen to any first class mechanical device—for instance, the bearings needing oiling, the mainspring needing lubricant or the mainspring unhooking or breaking—it will be found very easy to remedy such trouble by referring to the following directions.

Oiling the Motor

The bearings of the motor should be oiled about twice yearly, sometimes oftener. A good quality of sewing machine oil, or the *Motor Bearing Oil* shown in our big General Catalog, should be used on all bearings except the worm on the governor shaft, the fibre worm gear and the teeth of the gears. To these parts should be applied vaseline with a drop of oil, or the *Gear Lubricant* shown in our big General Catalog. For the mainspring, a graphite preparation made especially for this purpose should be used. You will find *Mainspring Lubricant* listed in our big General Catalog. Read the paragraph "Lubricating the Mainspring.

Removing Motor and Motor Board From Cabinet

To oil the motor or replace any defective part, the motor board, with motor attached, must first be removed from the cabinet. Before doing anything whatever to the motor or motor board or even loosening the screws on top of the motor board, be sure to let the motor run down completely.

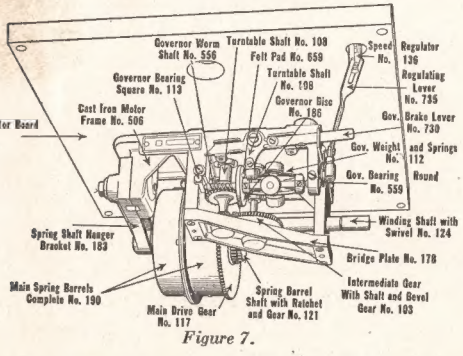
Governor Worm Shaft No. 556
Turntable Shaft No. 109
Felt Pad No. 659
Speed Regulator No. 136
Governor Bearing Square No. 113
Turntable Shaft No. 198
Regulating Lever No. 735
Cast Iron Motor Frame No. 506
Governor Disc No. 186
Motor Board
Gov. Brake Lever No. 730
Gov. Weight No. and Springs 112
Gov. Bearing Round No. 559
Winding Shaft with Swivel No. 124
Spring Shaft Hanger Bracket No. 183
Bridge Plate No. 178
Main Spring Barrel Complete No. 190
Spring Barrel Shaft with Ratchet and Gear No. 121
Intermediate Gear With Shaft and Bevel Gear No. 103
Main Drive Gear No. 117

Figure 7.

Play a record to unwind the motor. Never let the motor run down without playing a record, as the mainspring is liable to become unfastened in the spring barrel.

To remove the motor board and motor, first remove the winding crank by turning it slowly to the left until it is released; then lift up the turntable. If the turntable sticks on the turntable shaft or spindle, grip it with both hands, one on each side of the turntable, and pull straight upwards. If necessary, have another person lightly tap the top of the turntable spindle with a clean piece of hardwood until the turntable loosens on the shaft.

Next, loosen the screws which are located around the *outside edge of the motor board* (see Fig. 1) and lift the motor board, with the motor attached, clear off the cabinet. *Never take out the screws which are located in the center of the motor board around the turntable shaft.* These screws hold the motor to the board and if they are unscrewed, the motor will drop from the motor board onto the tone chamber and damage it.

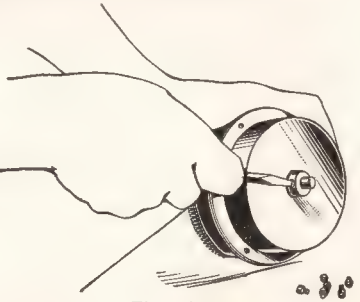

Figure 8.

Taking Out an Old Mainspring

Remove the spring barrel from the motor by loosening the screws of the spring barrel Shaft Hanger Bracket No. 183, Figure 7. Remove the spring shaft set screw as shown in Figure 8. Separate the spring barrel cups by taking out the screws connecting them and pulling out the shaft running through. This leaves the spring barrel cups as shown in Figure 9.

Wipe off the graphite and remove the dividing plate. On some spring barrels the cover must be removed to get at the mainspring. These covers are sometimes fastened with lugs, sometimes by screws and sometimes merely by friction, fitting closely to the spring barrel cup.

Figure 9

Be sure to mark the outside of the spring barrel cup in some way, say with an arrow, showing which direction the old mainspring is wound into the barrel, as your new spring must be put in exactly as the old one was.

Fasten the spring barrel cup to a piece of board with two common nails or screws through the screw holes in the cup, and fasten the board to a bench or

table to prevent its turning. This will give the same result as putting the spring barrel cup into a vise.

Now detach the inner end of the mainspring which is anchored on a hook on the mainspring shaft. In doing this, insert the screwdriver between the mainspring shaft and the coil of the spring next to it, pressing outwards (see Fig. 10). Grasp the inner end of loosened spring with a pair of pliers and pull a few coils a little way out of the spring cup as shown in Figure 11. Be careful not to pull more than a few coils in this manner, as there is danger of the entire spring flying out unless great care is used.

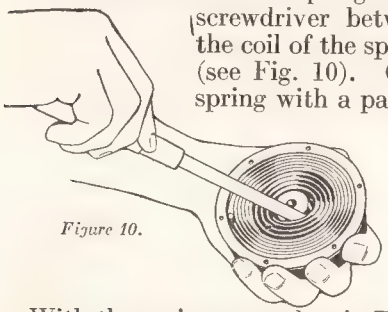

Figure 10.

With the spring started as in Figure 11, let the loose end dangle while you uncoil the entire spring. Keep both hands firmly over the spring, controlling it with your fingers, gradually releasing more and more of the spring until it is finally all uncoiled.

Remove the pin that holds the outer end of the mainspring in the spring barrel cup, by use of pliers as shown in Figure 12. Some mainsprings are only hooked over a rivet head on the spring barrel cup, so there is no pin to remove.

Remember in just which direction you unwound the spring that you took out of the barrel and just how it was attached, as stated before. Putting the new spring in the barrel is merely a reversal of the process of taking the old one out. (See paragraph following "Winding New Spring Into Spring Barrel Cup.")

Removing Wire or Clamp From New Mainspring

The new spring is sent tightly coiled and held so by a wire or clamp. This wire or clamp must be removed with care, else the spring in uncoiling is likely to fly out of your hands, injuring you or a bystander. The safest method is the way shown in Figure 13. Place the new spring, just as it comes to you, on the floor, with the center of it resting on a small block, which is smaller than the outside coil of the spring, or else place it partly over the edge of a raised platform

Figure 11.

or box. Press one foot heavily upon the spring, while, with the screwdriver, you push down the wire or clamp which confines it. When this slips off, the spring will unwind with a rush, but if your foot holds it firmly it can do no damage.

Winding New Spring Into Spring Barrel Cup

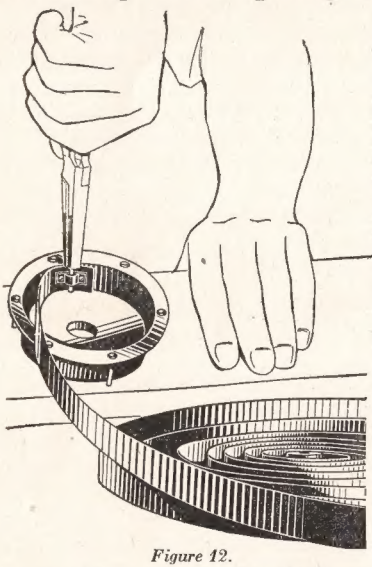

Figure 12.

Having removed the wire or clamp from the new mainspring, as directed in the preceding paragraph, fasten the outer end of the spring inside the spring barrel cup, exactly as the old one was attached (see Figure 12). Be sure to place it so that it will unwind in the same direction as the old spring, as you marked on the spring barrel cup. Then wind the spring into the cup as shown in Figure 14, taking care as you wind that each coil is pressed down level with the others. When the spring is all coiled in the spring barrel cup, hook the inner end over the hook on the spring shaft just as the old spring was attached, and bend the end of the spring with a screwdriver or a pair of pliers, around the shaft to prevent the spring from loosening up on the hook.

Lubricating the Mainspring

A new spring must be thoroughly lubricated with a graphite preparation made specially for this purpose. This is described and listed in our big General Catalog. Ordinary thin oil should not be used for the mainspring. The graphite lubricant, having a thick consistency, is held in the spring barrel a long time. Thin oil, on the contrary, very quickly runs away and leaves the spring dry.

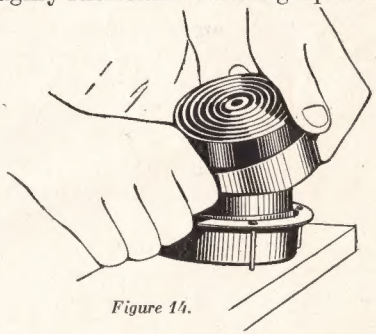

Figure 14.

The new spring comes to you

without being lubricated. The lubricant is to be put on after the spring is placed in the spring barrel cup.

In lubricating old springs the old lubricant must be removed from the spring barrel before applying the new lubricant. This can be done without removing the spring from the spring barrel cup. Immerse the entire spring barrel cup, with the spring in it, in benzine or gasoline. After the spring is clean, allow it to dry completely in the open air. If benzine or gasoline is not at hand, follow the paragraph "Taking Out an Old Mainspring." Wipe the old lubricant off with a rag and replace the spring in the spring barrel cup in accordance with the instructions in paragraph "Winding New Spring Into Spring Barrel Cup."

Figure 13.

Pour the lubricant into the spring barrel cup until it is about three-fourths full, being careful to distribute the lubricant everywhere between the coils, so that every part of the spring will be thoroughly greased. This done, replace the dividing disc and join the spring barrel cups by replacing the connecting screws; or, on the spring barrels having a cover which is fastened with lugs, screws or friction, replace the cover so that it fits tight over the spring barrel cup.

Unhooked Mainspring

A mainspring unhooks when either the inner or the outer end loosens up on the hooks or anchor rivets of the spring barrel cup and the spring barrel shaft. This sometimes happens because the inner end of the spring is not wound closely enough around the spring barrel shaft, or by twisting and turning the spring barrel in the opposite direction from which the spring is wound into the spring barrel cup or, sometimes, the hooks or the anchor rivets to which the ends of the mainspring are fastened wear off and the ends of the spring slip off. This trouble is also very likely to occur if the motor is allowed to run down without playing a record. To unwind the motor, keep on playing a record until the motor is *completely* run down.

To take care of this trouble, take out the spring and put it back in the spring barrel cup as directed for taking out an old mainspring and winding in a new one.

If New Parts Are Needed

If new parts are needed, always be sure to send the old part to us as a sample. In case you cannot repair the motor yourself, send us the complete motor, attached to the motor board, being sure that it is carefully packed. If only a mainspring is to be replaced and you do not care to do the work yourself, just take the spring barrel out by loosening up the screws which hold it in place, and send the spring barrel, without the motor, to us carefully packed. Be sure to write us fully when sending us the spring barrel or any other parts.

We are always glad to give you any information you may desire in regard to the repairing of your Silvertone motor, cabinet or tone arm. When asking for any information be sure to advise us what model SILVERTONE you have and explain fully the nature of your trouble.